

black, or nearly so, and naked ; the down-feathers grew slowly ; and the tail-feathers, which are white in the adult birds, are black in the young one, and still continue so. This led to the young bird being described a few years ago as a second species*.

GUIRA CUCKOO (*Guira piririgua*).

One of these birds during the early part of the summer dropped or laid an egg on the ground in the aviary ; but unfortunately the specimen was broken by the fall, or by the birds themselves or their companions. Sufficient pieces, however, were saved to enable a good drawing to be made ; and it is interesting to find this bird lays an egg that agrees completely with the egg of the Anis (*Crotophaga*), to which it is doubtless closely allied.

SCARLET IBIS (*Ibis rubra*).

A female of this bird has been in the aviary with other birds since March 1864 ; and, notwithstanding that there were three of her own species in the same aviary, she paired with a white Ibis in June last. These two birds built a nest upon the ground, composed principally of twigs, pieces of birch-broom, sticks, &c., upon which was laid an egg of a pale green, thickly spotted and blotched with a dirty-brown colour. The egg was constantly attended by both birds, and the nest was raised considerably under the egg by the constant addition of materials, the egg being rolled from side to side as the sticks, &c., were placed under it. This raising the nest continued for about ten days, after which time the birds began to incubate, taking turns on the egg. After sitting four weeks, the egg was found to be addled, and was removed in order to save the specimen, which is now on the table.

February 13, 1866.

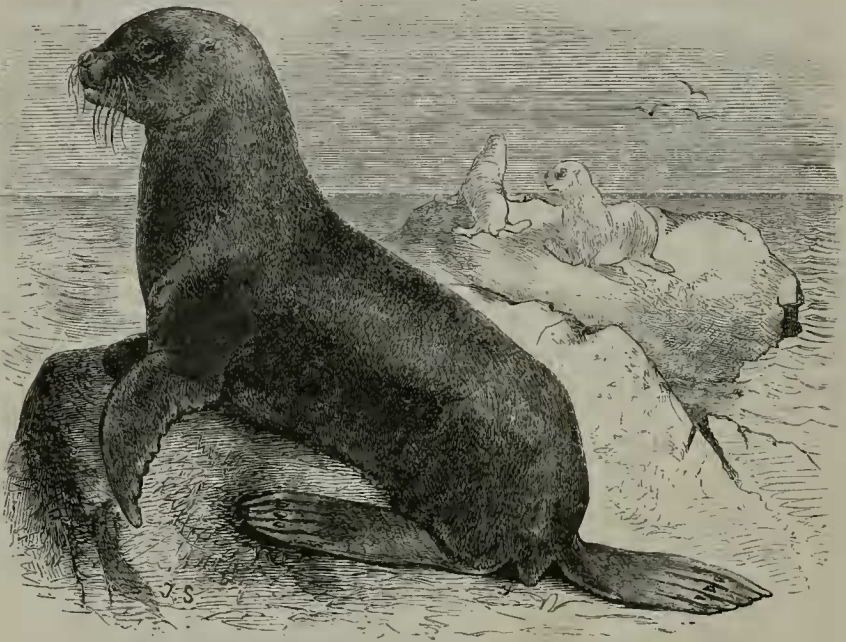
John Gould, Esq., F.R.S., V.P., in the Chair.

Mr. Sclater called the attention of the Meeting to three Monkeys recently received from the Island of St. Kitts, West Indies. Mr. Edward Greey, Fellow of the Society, having reported the existence of Monkeys in a wild state in considerable numbers upon this island, had been urged by Mr. Sclater to attempt to obtain some specimens, in order that it might be ascertained to what species they were referable, as it had been always believed that there were no native *Quadrupana* in the Lesser Antilles. Through the assistance of Mr. John Carden, of St. Kitts, Mr. Greey had succeeded in obtaining a specimen of this Monkey ; and two others from the same island had

* *Columba gouldiæ*, Gray, Ind. Zool. pl. 37 ; *Catenas gouldiæ*, auct.

at the same time been presented to the Society by Mr. H. B. Cameron, Superintendent of the R. W. I. M. S. P. Company at St. Thomas's. The animals were undoubtedly referable to the common Green Monkey (*Cercopithecus callitrichus*, Geoffr.) of Western Africa, and must have been introduced years ago, as they were stated to be now very abundant in the woods of St. Kitts, and to cause great damage to the sugar-plantations.

Mr. Selater also called the attention of the Meeting to several recent additions to the Society's Menagerie. Amongst these were particularly noted:—(1) A young male Sea-Bear (*Otaria hookeri*), which had been captured on the sea-shore near Cape Horn, in the month of June 1862, by a French sailor named Leconte, then serving on board the 'Paulina' of Buenos Ayres. A female captured shortly



afterwards had not survived to reach Europe. M. Leconte had kept the animal ever since, and had made an exhibition of it in various parts of France and England. (2) A female Formosan Deer (*Cervus taevanus*), purchased for the Society in China by Mr. Swinhoe, and more particularly acceptable, as a male of this fine new species had been now for some time in the Menagerie without a mate.

Mr. Selater exhibited part of a collection of Mammals and Birds forwarded by Mr. Henry Whiteley from Japan, having been collected in the vicinity of Nagasaki during the summer of 1865, and made remarks upon some of the more interesting species contained in it. Amongst these were examples of *Mustela melampus*, Temm.,

Urotrichus talpoides, Temm., *Dicrurus leucophæus*, Vieill., and *Urocissa sinensis*.

Mr. W. H. Flower read the first part of a Memoir on the Osteology of the Sperm-Whale (*Physeter*). This will be published in the Society's 'Transactions,' with Illustrations.

The following papers were read:—

1. A Revision of the Genera of Rhinolophidæ, or Horseshoe Bats. By DR. J. E. GRAY, F.R.S., V.P.Z.S., F.L.S., &c.

At the preceding Meeting I gave an account of the genera of *Pteropidæ*. I have lately been revising my former manuscript on the Horseshoe Bats, and adding descriptions of the specimens which have been received at the British Museum since it was composed.

The family *Rhinolophidæ* is characterized as containing Leaf-nosed Bats, which have only rudimentary intermaxillary bones, suspended in the nasal cartilages. They sometimes have upper cutting-teeth; but these are generally early deciduous. The hinder, erect portion of the nose-leaf is often complicated and divided by septa into cells.

I. *Nose-leaf broad, expanded, horseshoe-shaped in front, with the nostril near the centre; the hinder portion erect, triangular, acute, with cells on the side of its front surface. Tragus none.*

1. *The hinder, erect part of the nose-leaf with three cells on each side in front, and a compressed central process; front portion simple, without any pits. Tail and heel-bone distinct. Teeth 32; molars 3/3, premolars 2/3. Rhinolophina.*

1. **AQUIAS.** Front edge of the central longitudinal nasal process broad, with a membranous edge, which is expanded and folded down on each side of its base. *A. luctus* and *A. trifoliata*.

2. **PHYLLOTIS.** Front of the central longitudinal nasal process broad, with a membranous edge, which is continued so as to form a concavity between the nostrils. *P. philippensis*.

3. **RHINOLOPHUS.** Front of the central longitudinal nasal process flat, without any membrane on the edge or lobe at the side of the base. *R. hastatus*.

2. *The hinder, erect part of the nose-leaf with one cell on each side, and one in the centre of the front, and with a compressed longitudinal process; the front, horseshoe-shaped portion fringed with a longitudinal crest, ending in a pit between the nostrils. Rhinonycterina.*

4. **RHINONYCTERIS.** *R. aurantius*.

II. *The hinder portion of the nose-leaf convex, with a transverse ridge in front below, with the broad apex bent down over the ridge, and divided by longitudinal folds into cells beneath; without any central longitudinal ridge in front.*

Phyllorhina

1. *The upper edge of the upper part of the nose-leaf entire. Tail and heel-bone distinct. Teeth 30; molars 3/3, premolars 1/2.*

5. MACRONYCTERIS. Forehead with a central longitudinal pore in both sexes; horseshoe portion of the nose-leaf with raised membranaceous edges, forming a cup; sides of the nose leafy; forehead hairy. *M. gigas*.

6. GLOIONYCTERIS. Forehead with a transverse pore in both sexes; the horseshoe portion of the nose-leaf with a raised membranaceous edge, forming a cup; sides of the nose leafy; forehead glandular on the sides. *G. armigera*.

7. RHINOPHYLLA. Forehead with a small transverse pore with two small pores close together on each side of it; front edge of the horseshoe portion of the nose-leaf raised, membranaceous, and bent up in the middle, forming a central notch; sides of the nose leafy; forehead hairy; wings from lower part of the ankles. *R. labuanensis*.

8. SPEORIFERA. Forehead with a large transverse pore in the males, and its place marked with a pencil of dark hairs in the females, and with two pores on the sides; the front edge of the horseshoe portion of the nose-leaf closely applied to the lip; sides of nose leafy; forehead hairy. *S. vulgaris*.

9. CHRYSONYCTERIS. Forehead with a transverse central pore in both sexes, with two pores near it on each side of it; the front edge of the horseshoe portion of the nose-leaf flat, closely applied to the lip; sides of the nose leafy; forehead hairy. *C. fulva*.

10. PHYLLORHINA. Forehead without any pores behind the nose-leaf. *P. nobilis* and *P. pygmæa*.

2. *Upper edge of the upper part of the nose-leaf two- or three-toothed. Teeth 28; molars 3/3, premolars 1/2.*

11. ASELLIA. The upper edge of the upper part of the nose-leaf three-toothed. Tail and heel-bone distinct, produced. *A. tridens* and *A. tricuspidata*.

12. CÆLOPS. The upper edge of the upper part of the nose-leaf two-toothed. Tail and heel-bone none. *C. frithii*.

III. *Nose-leaf simple, coriaceous; the hinder, upper portion erect, leaf-like, without any cells in front. Tragus distinct.*

1. *The nose-leaf flat, with the nostril simply pierced in its front part. Forehead concave. Tail elongate, free, longer than the short interfemoral membrane. Teeth 28; molars 3/3, premolars 1/2. Rhinopomina.*

13. RHINOPOMA. *R. microphyllum*.

2. *Nose-leaf with a central midrib, the sides of which are extended downwards between and covering the nostrils. Tail none; interfemoral membrane very large. Megadermina.*

14. MEGADERMA. *Nose-leaf divided into two parts by a transverse ridge behind the nostrils; front portion flat on the nose. Teeth 32; molars 3/3, premolars 2/2.*

a. *The transverse ridge ascending on each side, forming an oval disk. Megaderma. M. lyra.*

b. *The transverse ridge bent down in the centre, forming a cordate disk. Spasma. M. spasma.*

15. LAVIA. *Nose-leaf simple, without any transverse ridge behind the nostrils; the front portion concave, with a raised front edge. Teeth 30; molars 3/3, premolars 1/2. L. frons.*

IV. *The nostrils in the front of a deep longitudinal cavity on the nose, with two pairs of laminæ on each side of it; the front pair with a subspirial fold in front. Tail elongate; terminal joint with a transverse process on each side, edging the membrane. Nycterina.*

The wings from the ankles; the skull broad; forehead with a deep circular concavity, truncated in front; intermaxillary well developed, free on the sides. Cutting-teeth $\frac{2-2}{6}$; upper free from the canines. Chin with two longitudinal ridges enclosing a triangular prominence.

16. NYCTERIS. *Ears united at the base, very long. Africa. N. thebaica.*

17. NYCTEROPS. *Ears separate, as long as the head. Africa. N. pilosa.*

18. PELATIA. *Ears separate, very long. Asia. P. javanica.*

The laminæ on the sides of the nose-leaves and the glands on the forehead and other parts of the body may be very distinctly seen in the newly born specimens that have been preserved in spirits, the short hair allowing them to be seen more distinctly than in the adult animals.

The name of *trifoliatus* was given by Temminck to one species of the genus *Aquias*; and two species are distinguished by that author—one as having a nose-leaf like a St. Andrew's cross, and the other as having a nose-leaf like a trefoil; and they are so figured in his Monograph, ii. t. 30, 31. These forms of the nose-leaf, however, are entirely dependent on the art, or rather want of care, of the animal-preserver; for the lobes that are expanded to produce them are, in specimens preserved in spirits, and doubtless also in living animals, bent down over the cavity between the nostrils.

2. Report on the Mammals of Palestine. By the REV. H. B. TRISTRAM, M.A., F.L.S., C.M.Z.S.

The subjoined catalogue contains eighty species, all of which, excepting when the contrary is stated, were collected by us in our expedition in 1864. The mammalian fauna contains a much larger proportion of African species than any other branch of the fauna of the country. Twenty-three species may be considered strictly African or Arabian. All the others belong to the types of the Mediterranean basin, though several species are peculiar. It is remarkable that we have scarcely any trace of Indian forms. I believe that the list, considerable as it is, will be largely extended by further research in the southern and desert regions, especially as regards the Cheiroptera and Rodentia; for many species eluded our efforts to capture them, and, as all collectors know, no class of animated life so easily escapes observation. Of the Phocidæ and Cetacea of the coasts I am unable to give any information.

1. HYRAX SYRIACUS, Schreb.

“Shaphan,” Hebr. “Tübsoon,” Arab.

The Coney is not uncommon by the shores of the Dead Sea, in rocky gorges, rare in the rest of the country, but is occasionally found in the mountainous ridge north of the plain of Acre. Not known in Hermon, or the Lebanon; extremely abundant in the Sinaitic peninsula. Has three or four young at a birth.

2. SUS SCROFA, L.

Abundant in the wooded hills and maritime plains alike. Swarms in all the thickets by the Jordan and Dead Sea, and in the forest country east of Jordan. Extends even to the bare wilderness of Judæa, and almost into the desert, where there is no cover, and where its only food is the roots of the desert bulbs.

3. BOS TAURUS, L.

Neat cattle are not extensively reared in the central districts. In the south, and on the east side of Jordan, they are the principal stock. There are two very marked varieties:—(1) A small rough one, not unlike the Scotch horned cattle in appearance, but rather larger, which is the breed of the southern wilderness. There is also a larger race in the forests of Gilead. The colour of this breed is generally black or red, rarely with any white. (2) A very large Ox, apparently allied to the Tuscan breed, generally light-coloured, and called in the country the Armenian cattle. I have only observed it in the northern plains.

4. BOS BUBALUS, L.

The Buffalo takes the place of the common Ox in the Ghor or Jordan valley, especially in the northern districts and marshes of

Huleh. It is also reared by the Beni Sakkrs and other Bedouin tribes in the forest region of Bashan.

N.B. The remains of at least two extinct species of Ox were found by us in recent bone-breccia in caves in the Lebanon. They have been pronounced by Mr. Dawkins to belong probably to *Bos primigenius*, and *Bison bonasus*.

5. OVIS ARIES, L.

Two varieties of Sheep are found in Palestine, by far the most common being the broad-tailed Sheep, var. *laticaudata*, which, indeed, is the only race we observed in the southern parts of the country. The tail is frequently protected by a board placed on its underside; but we never saw the wheeled carts mentioned both by Herodotus and later writers. The other breed, which appears to be confined to the northern parts of the country, is a large-boned, rather narrow-backed animal, with somewhat of the character of the Merino, but larger and resembling in shape the old Cotswold breed of England. The ram is always horned.

6. CAPRA HIRCUS, L.

The Goat is more abundant in every part of this hilly and scantily watered country than the Sheep, and constitutes its chief wealth. There are at least three very distinct races found in Palestine. In the neighbourhood of Hermon is a breed very much resembling that of the British Isles. In the southern parts of Lebanon the Mohair Goat (*Capra angorensis*, L.) is bred for the sake of its long silky hair; but this variety is never found in the rough bushy districts which occupy the larger portion of Palestine. The common Syrian Goat (*Capra mambrica*, L.) is almost universal throughout the country. It is black, and may be at once recognized from any other race by the long pendent ears, a foot long, hanging down far below the recurved horns.

7. CAPRA BEDEN, Wagn. (= *C. sinaitica*, Ehrenb.).

The Syrian Ibex, or Beden of the Arabs. Only found in Palestine in the neighbourhood of the Dead Sea, especially about Engedi. Very abundant on the east side, in the mountains of Moab, and still more so throughout the Sinaitic peninsula. It formerly extended to the Lebanon, where its teeth have been found in cave-breccia by ourselves and by M. Lartét (see Bull. Soc. Géol. de France, xxii. p. 543). Quite as wild, nimble, and wary as the Ibex of the Alps. It drops its kid in March or April, and has but one at a birth. Several young ones were brought to us, and reared for some time by hand. The horns of the female are much smaller than those of the male. The flesh is excellent, far superior to that of the Gazelle. The horns of the male are subquadrangular, sharply emarginated at the inner anterior angle, and with from twenty to twenty-four (in fully adult specimens) bold ridges on the front face only.

8. ANTILOPE LEUCORYX, Pall.

Common in North Arabia, and found in the Belka and Hauran. Its horns may be purchased at Damascus.

9. ANTILOPE ADDAX, Licht.

More strictly confined to the desert regions than the former. I never obtained it, but have seen it near enough to be able to make out distinctly the species by the shape of the horns. Both of these Antelopes are well known to the Bedouin.

10. ALCELAPHUS BUBALIS, Pall.

"Bekker-el-wash," "Wild Cow," of the Arabs.

I never saw in Palestine this species, with which I am familiar in North Africa; but the Jehalin Arabs know it well by the same name, and assure me they often obtain it when it comes to drink at the streams on the east side of the Dead Sea.

11. GAZELLA DORCAS, Pall.

"Ghazal," Arab.

Extremely common in every part of the country south of Lebanon. It wanders in small bands everywhere, approaching even the gates of Jerusalem. I have seen it on the back of the Mount of Olives.

12. GAZELLA ARABICA, Ehrenb. (= *G. cora*, H. Smith).

Abundant on the east side of Jordan, especially in all the forest glades of Gilead.

13. CERVUS CAPREOLUS, L.

Only found, so far as our knowledge extends, in the bare hilly country of North-eastern Galilee.

14. DAMA VULGARIS, Gesn.

Rare. A few are still to be found on Mount Tabor, and the woods between that mountain and the gorge of the Litany River. We met with it once about ten miles west of the Sea of Galilee. Hasselquist mentions having found it on Mount Tabor. M. Lartêt has found its teeth in bone-breccia in the Lebanon, but does not appear to have been acquainted with the fact of its present existence in Palestine (see Bull. Soc. Géol. de France, xxii. p. 542).

[CERVUS ELAPHUS, L.

CERVUS TARANDUS, L.

ALCES PALMATUS, Gr.

Teeth and bones, ascribed to the Red Deer, Reindeer, and Elk, were found by us imbedded in breccia in the Lebanon, along with flint-flakes, thus proving the former existence of these species in a much lower latitude than had hitherto been ascertained.]

15. CAMELUS DROMEDARIUS, Erxl.

The common beast of burden in the south and east of Palestine. The Bactrian Camel we never saw, even in caravans from Persia.

16. EQUUS CABALLUS, L.

West of the Jordan the pure Arab breed is only to be found in the possession of sheikhs and wealthy men. East of the Jordan we never saw a badly bred horse.

17. ASINUS VULGARIS, Gr.

The most important beast of burden in the west and north. The Ass is taller, stronger, and fleetier in Palestine than in any other country I have visited. Much care is taken in the breeding; and in Galilee I have seen herds of several hundred breeding Asses.

18. ASINUS HEMIPPUS, Geoffr.

The Syrian wild Ass, though most common in Mesopotamia, is still found in the Ledjah and the Hauran, and is occasionally brought into Damascus.

19. LEPUS SYRIACUS, Ehrenb.

"Arneb," Arab.

The only Hare in the wooded and cultivated portions of Palestine. Extends on the coast from the Lebanon and Hermon to Hebron and Gaza. It has four young at a birth. It is very different from the following species, with which it has been united by Giebel.

20. LEPUS SINAITICUS, Ehrenb.

"Arneb," Arab.

Confined in Palestine to the immediate neighbourhood of the Dead Sea. Much smaller than the last species, with a longer and narrower head; ears half an inch longer, but the black tip not extending so far. Only found in the rocky district and gorges round the Dead Sea.

21. LEPUS ÆGYPTIACUS, Geoffr.

The Hare of the southern region of Judæa and of the Jordan valley. The ears are not quite so long as in the last species, which is smaller; and their inside edges are fringed with long white hairs. Abundant wherever found.

22. LEPUS ISABELLINUS, Cretzschm (= *L. æthiopicus*, Ehrenb.).

This species appears to be very scarce, and confined to the sandy deserts of the south-east. One specimen only was obtained by us. It may probably be a variety of the last species.

N.B. The Rabbit (*L. cuniculus*) does not exist in Syria.

23. *HYSTRIX CRISTATA*, L.

The Porcupine is common in all the rocky districts and mountain-glens. I have picked up a skull near the southern shore of the Dead Sea. Its flesh is highly prized by the Bedouin. We found no trace of the other species (*H. hirsutirostris*, Brandt) said to inhabit Syria.

24. *SPALAX TYPHLUS*, Pall.

Very common in all the plains and cultivated districts, and also among the hills wherever there is sufficient soil. Never observed in the Jordan valley. Resorts much to the débris of old ruins, among which it burrows. It is caught by a trap let into its run and baited with onion. I have kept a Blind Mole alive for several days in a box, and it ate heartily of carrots and onions.

25. *ACOMYS CAHIRRINUS*, Geoffr.

Confined entirely in Palestine to the Dead-Sea basin and the ravines abutting on it. We trapped it as far up the country as the monastery of Marsaba.

26. *ACOMYS DIMIDIATUS*, Rüpp.

More abundant than the former species on the Dead-Sea shores; but, so far as our observation goes, not extending up the rocky ravines. We trapped several, and I also shot it feeding in the daytime among the bare gravel above Ain Feshkhah.

27. *ACOMYS RUSSATUS*, Wagn.

Obtained by us once in the rocky ravine above Sebbeh, the ancient Masada. Very common about Sinai.

28. *MUS DECUMANUS*, Pall.

As common here as elsewhere.

29. *MUS TECTORUM*, Savi.

At Beyrout.

30. *MUS MUSCULUS*, L.

Common in all the towns.

31. *MUS SYLVATICUS*, L.

In the plains. Once captured in our tent.

32. *MUS PRÆTEXTUS*, Licht.

In the Jordan valley and Dead-Sea basin.

33. *CRICETUS*, sp.?

There is a species of Hamster not uncommon; but we were not fortunate enough to meet with it. Its habits are fully described by Russell in his 'Nat. Hist. of Aleppo.' It is perhaps the *C. auratus*, Waterhouse.

34. GERBILLUS TÆNIURUS, Wagn.

Mount Carmel and the hill country generally.

35. GERBILLUS MELANURUS, Rüpp.

In the Jordan valley and Dead-Sea basin.

36. GERBILLUS PYGARGUS, Cuv. ?

Another small species, which appears to answer to *G. pygargus* of Cuvier, and is found in the wilderness of Beersheba.

37. PSAMMOMYS OBESUS, Rüpp.

Extremely abundant in sandy places throughout the Dead-Sea basin and the plains and uplands of Southern Judæa.

38. PSAMMOMYS MYOSURUS, Wagn.

Appears to take the place of the above in the higher ground.

39. PSAMMOMYS TAMARACINUS, Kuhl ?

A small Rodent met with at the south end of the Dead Sea seems referable to this species.

40. DIPUS ÆGYPTIUS, Licht.

Very common in the desert.

41. ARVICOLA AMPHIBIUS, Desm.

Only observed by us in the north.

42. ARVICOLA MONTICOLA, Wagn.

I caught a Vole, near the snow-line on the top of Hermon, which, on comparison, appears identical with a specimen in my possession from the Pyrenees. If the species be identical, the range of this Vole is much more extensive than has been hitherto supposed.

43. ARVICOLA ARVALIS, De Selys.

Very common.

44. ARVICOLA SOCIALIS, Desm.

In the desert near Damascus, and probably also in Southern Judæa, where we saw a very light-coloured, short-tailed Field-Vole.

45. GLIS VULGARIS, Kl.

The great Dormouse is very abundant in the oases of the Jordan valley, especially about Jericho, where it has its nest in every dôm-tree. Through some oversight we did not bring a specimen home; but it has been mentioned by several writers, from Russell downwards. At Jericho it was very lively in winter when disturbed.

46. MYOXUS NITELA, Desm. ?

47. *MYOXUS MELANURUS*, Wagn. ?

There are two smaller species of Dormouse—the one living chiefly in olive trees in Central Palestine, the other in holes in the rocks in the Dead-Sea basin. We did not succeed in preserving specimens ; but there can be little doubt as to the species, which have been mentioned by other writers as from Syria and Arabia Petræa. See Russell, Giebel, and Ehrenberg.

48. *SCIURUS SYRIACUS*, Ehrenb.

Extremely abundant in the woods south of Hermon, throughout the Lebanon, and at Damascus. Never noticed by us south of Banias.

49. *URSUS SYRIACUS*, Ehrenb.

Seen by us in a gorge behind Gennesaret. Found in a few places in the Lebanon. The snow near the top of Hermon was intersected in all directions by their tracks, and three were seen together on the top of Hermon by my friend the Rev. Fr. W. Holland.

50. *MELES VULGARIS*, Desm.

The Badger is found in every part of the country, and by no means scarce.

51. *MUSTELA PUTORIUS*, L.

In the north.

52. *MUSTELA VULGARIS*, Erxl.

A Weasel more than once escaped me. I do not think there can be much doubt of the species, which is found in Persia and Egypt.

53. *LUTRA VULGARIS*, Erxl.

By the Sea of Galilee.

54. *HERPESTES ICHNEUMON*, Wagn.

The Ichneumon is extremely common in every part of the country. It was scarcely possible ever to take a walk soon after sunrise without meeting with this little animal trotting away to its hole.

55. *VULPES NILOTICUS*, Rüpp.

The common Fox of the southern and central regions of Palestine. Extremely abundant in Judæa and on the east side of Jordan.

56. *VULPES FLAVESCENS*, Gray.

The Fox of the wooded districts of Galilee appears to agree with the diagnosis of *V. flavescens* of Dr. Gray (Ann. & Mag. N. H. xi. p. 118). Is it more than a variety of *V. vulgaris*?

57. *CANIS LUPUS*, Desm.

“Deeb,” Arab.

The Wolf is the dread of the shepherds from one end of the country

to the other, and a single Wolf is far more destructive than a whole pack of Jackals. Again and again have I put up the Syrian Wolf, and fired at it without success. Near Beersheba, in the hill country, in the forests of Bashan and Gilead, in the ravines of Galilee and Lebanon, and in the maritime plains it is alike distributed. We never saw two together, and I never heard of their hunting in packs. It is much to be wished that some traveller may be able to secure a specimen for examination; for it may possibly prove to be a distinct variety. It is of a lighter fawn-colour than any European Wolf I ever saw, and appears decidedly larger. I can confirm the statement of Dr. Russell, that the natives speak of another, larger and fiercer species, called "Sheeb;" but I could never obtain any clear definition of the distinctions between the two. Can the latter be *Canis lycaon*, Desm.?

58. CANIS FAMILIARIS, L.

Three distinct breeds of Dogs are found generally in Syria:—(1) The familiar Pariah Dog of the towns and villages. (2) The Sheep Dog, of the same build and type, but much larger, and resembling our Colly, or Scotch Sheep-Dog, which also it considerably exceeds in size; it is bold, intelligent, and faithful, and will rush on the wolf to its own destruction sooner than desert its flock. (3) The Persian Greyhound, much prized by the Bedouin sheikhs, and used for the chase of the Gazelle. With its elegant shape and the long silky hair of its ears and tail, it is perhaps the most beautiful race of its kind.

59. CANIS AUREUS, L. (= *C. syriacus*, Ehrenb.?).

The Jackal swarms in incredible numbers in every part of the country.

60. HYÆNA STRIATA, Zimm.

Common in every part of Palestine, and indifferent as to the character of the country. We obtained the young occasionally in spring, and procured on Mount Carmel the largest pair of adults I ever saw. The old rock-hewn tombs afford to the Hyæna convenient covert. It attacks the graves, even in the vicinity of towns.

61. FELIS JUBATA, Schreb.

The Cheetah is scarce, though found in different parts of the country. A few still haunt the neighbourhood of Tabor and the hills of Galilee. In Gilead it is more common, and a sheikh there presented me with three skins of Cheetah shot by his people.

62. FELIS LEO, Linn.

In spite of the assertions of several modern travellers, who have mistaken the Leopard for it, the Lion must be admitted to be now extinct in Palestine. Of its former abundance there can be no question, and it seems to have existed down to the times of the Crusades. Its bones have been found in recent diluvium by Dr. Roth.

It still occasionally occurs west of the Euphrates, and not many years ago a carcass was brought into Damascus.

63. *FELIS LEOPARDUS*, Linn.

“Nim'r,” Arab.

The Leopard is more generally distributed than the Cheetah, but in very small numbers. It is found all round the Dead Sea, in Gilead, and Bashan, and occasionally in the few wooded districts in the west. A magnificent pair were killed on Mount Carmel while we were there, and the skins purchased by the Pasha for £20.

64. *FELIS PARDINA*, Oken.

We never met with the Lynx; but I have occasionally seen, in the possession of the Arabs, battered skins which I take to belong to this species. It is spotted on the belly, and called “Wushak” by the Arabs.

65. *FELIS CARACAL*, Güld.

We never met with the Caracal; but have seen the skin, stated to have been killed in the east of the country.

66. *FELIS CHAUS*, Güld.

Several times seen by us, and once taken by us in a trap at Jericho.

67. *FELIS* — ?

I shot, in a wood near Carmel, a small Wild Cat, about two-thirds the size of *F. chaus*, and with a much longer tail. Though wounded, it escaped into an inaccessible crevice in the rocks. It is at any rate an additional species, not enumerated above.

68. *SOREX PYGMÆUS*, Pall.

I picked up one specimen dead among the cliffs under Marsaba.

69. *SOREX ARANEUS*.

The common Shrew of Northern Palestine.

70. *SOREX CRASSICAUDATUS*, Ehrenb.

This pretty silver-grey species is found in the desert and southern ravines.

71. *ERINACEUS EUROPÆUS*, L.

In the Lebanon. I believe the species in the south is smaller and distinct. Unfortunately three specimens of the latter which we kept alive made their escape. The Hedgehog is very common.

72. *PLECOTUS AURITUS* (L.).

By the Sea of Galilee.

73. *VESPERTILIO MURINUS*, L.

Tyre and Beyrout.





1/3

lith.

M & N Hanhart imp

PTERODROMA CARIBÆA.

74. SCOTOPHILUS — ?

Plain of Acre.

75. VESPERUGO KUHLII, Kuhl.

Jerusalem, Cave of Adullam, and elsewhere.

76. TAPHOZOUS NUDIVENTRIS, Rüpp.

In immense numbers in ravines in Galilee.

77. RHINOPOMA MICROPHYLLUM, Geoffr.

Swarms in the Jordan valley and Dead-Sea basin.

78. RHINOLOPHUS FERRUM-EQUINUM, Leach.

Abundant throughout the country.

79. RHINOLOPHUS CLIVOSUS, Rüpp. ?

Near the Sea of Galilee.

80. XANTHARFYIA ÆGYPTIACA (Geoffr.).

In a cave in the wady Kern, Central Palestine.

3. On an Undescribed Species of Petrel from the Blue Mountains of Jamaica. By ALEXANDER CARTE, M.A., M.D. Dubl., M.R.I.A., F.L.S., &c.

(Plate X.)

In a collection of Jamaica birds, presented to the Natural-History Museum of the Royal Dublin Society by William Thomas March, Esq., of that island, were two specimens, male and female, of a species of *Procellaria*, marked "The Blue-Mountain Duck;" and as I believe no detailed account of this interesting bird has been hitherto published, I have much pleasure in forwarding to the Zoological Society of London the following description.

Both sexes are similar in size and colour of plumage.

PTERODROMA CARIBBÆA, n. sp. (Pl. XI.)

P. capite, collo, dorso alisque fuliginoso-nigricantibus; vertice et pogoniis externis primariarum plumarum aliquanto nigricantioribus; plumis abdominis tectricibusque sub cauda aliquantulum pallidioribus; tectricibus super caudam plumisque circum uropygium canis vel caudidulis: iridibus fuscis: rostro, tarsis, pedibus unguibusque nigris.

Long. $12\frac{3}{4}$ poll.

Hab. Blue Mountains in insula Jamaica.

Colour.—Head, neck, back, and wings of a uniform dark sooty brown; vertex and external webs of the primaries a shade or so darker; abdominal feathers and under tail-coverts a shade or two lighter than those of the back; upper tail-coverts and basal portion of tail-feathers of a light grey or dirty white.

This light-coloured patch on the rump is conspicuous when the wings are expanded, but completely concealed when they are closed. Irides dark hazel. Tarsi, toes, webs, and nails jet-black.

Dimensions.

	inches.
Length, from point of bill to tip of tail, about	$12\frac{3}{4}$
Expanse of wings.	34
Length from carpal joint to tip of first primary	$10\frac{3}{4}$
Length of bill, measured from the gape.	$1\frac{5}{8}$
—— of nasal tubes	$\frac{1}{16}$
—— of interval between nostrils and commencement of apical curve of upper mandible	$\frac{1}{4}$
—— of tarsi	$1\frac{5}{10}$
—— of toes, outer and middle, subequal	2
—— of inner toe	$1\frac{5}{8}$
First and second primaries subequal, and about $\frac{1}{2}$ inch longer than the third. Tail about $4\frac{1}{2}$ inches long and round at extremity. The closed wings extend about $1\frac{1}{2}$ inch beyond the tail. Hallux small, and in shape triangular.	

This bird evidently belongs to that section of the *Procellariinae* to which Bonaparte* has assigned the name of *Pterodroma*, and, of the three species mentioned by him of this subgenus, appears to bear a close resemblance to *P. macroptera*, Smith, but differs from it in being somewhat smaller in size, and especially in having the basal portion of the tail and upper tail-coverts of a grey or dirty-white colour. This latter peculiarity will also serve as a distinguishing mark for it from *P. fuliginosa*, Banks, *P. atlantica*, Gould, and indeed from all the known species of this subgenus.

With respect to the habits of the bird, Mr. March has most kindly furnished me with the following interesting details:—

“It is a night-bird, living in burrows in the marly clefts of the mountains at the east and north-east end of the island.

“The burrows form a gallery 6 to 10 feet long, terminating in a chamber sufficiently commodious to accommodate the pair; from this they sally forth at night, flying over the sea in search of food (fishes), returning before dawn.

“It is often seen on moonlight nights and at sunrise running about the neighbourhood of its domicile, and sometimes crossing the road regardless of the labourers going to their work. I know nothing of its nidification.

“The first specimen recorded was obtained by the late George

* *Vide* Conspectus Generum Avium, tom. ii. p. 191.

Atkinson. The second by Sir Henry Barkly. The next, a pair, were sent by me to the Royal Dublin Society*.

"The last bird I have heard of was killed by a labourer digging cane-holes on the side of a hill on a property in Metcalf; the digging-bill suddenly sinking into the marl and cutting the bird through the back."

Mr. Gosse†, in referring to what appears to me to be this bird, says, quoting from information supplied to him by Mr. Hill, "In the Blue Mountains, high up towards their summits, is a curious *burrowing* bird, which is called the Blue-Mountain Duck. It is described as having webbed feet, and a hooked parrot-bill. This description would indicate a species of *Alca*. It inhabits holes in the cliffs, and is said to burrow to the extent of 10 feet. Nothing is known of its habits of feeding. E. M'Geachy, Esq., Crown Surveyor of the County of Surrey, first informed me of the existence of such birds. He had himself taken them from the burrows. These facts have also been assured to me by other observers."

Mr. Gosse also refers to a specimen of this bird as being in the possession of Mr. Atkinson of Newcastle-on-Tyne; but I have not been able to find that this gentleman ever published a description of it.

In Mr. March's letter he says that Mr. Hill recognized the bird as that mentioned under the name of "Diabloton" by Attwood, in his work entitled 'The History of the Island of Dominica,' published in London in 1791; on referring to which, at page 30 *et seq.*, I find it thus described:—"The Diabloton, so called by the French from its uncommonly ugly appearance, is nearly the size of a Duck, and is web-footed. It has a big round head, crooked bill like a Hawk, and large full eyes like an Owl. Its head, part of the neck, chief feathers of the wings and tail are black, the other parts of its body are covered with a milky-white down; and its whole appearance is perfectly singular. They feed on fish, flying in great flocks to the sea-side in the night-time; and in their flight make a disagreeable loud noise like Owls, which bird they also resemble in their dislike of making their appearance in the daytime, when they are hid in holes in the mountains, where they are easily caught."

As I am given to understand by Mr. March that the name of *Prion caribbæum* has been applied to the bird by Mr. Mitchell in MS., I think it preferable, although I have failed to discover that this gentleman has left any record on the subject, to describe it under the same specific name, so as to avoid confusion in case it should hereafter be found that the species has been previously described.

* The specimens now described.

† Birds of Jamaica, p. 437.

4. On the Birds of the Vicinity of Lima, Peru. By P. L. SCLATER, M.A., Ph.D., F.R.S., &c. With Notes on their Habits; by Professor W. NATION, of Lima, C.M.Z.S. (Part I.)

(Plate XI.)

Our Corresponding Member, Prof. W. Nation, of Lima, Peru, has recently sent me a small collection of birds obtained in the vicinity of that city, to which he has been kind enough to add some interesting notes on their habits, localities, &c. I have carefully determined the species, and appended some few observations on the synonymy and other points which appeared to call for remark.

The ornithology of this part of Western Peru is not yet very well known to us, Tschudi's (somewhat imperfect) 'Fauna Peruana' being our chief authority on the subject. Some few species were collected on this coast during the voyage of the 'Beagle;' and the well-known French collector, Delattre, passed through Lima on one of his journeys. The new species obtained by the latter naturalist were described by Lafresnaye in the 'Revue Zoologique' for 1847.

Prof. Nation, who is a resident at Lima, informs me that he has made a considerable collection in this neighbourhood, and promises to send me a second portion of it for examination very shortly; so that I hope to have before long a second paper to submit to the Society on this subject.

The species contained in the present collection are the following, the nomenclature adopted being, unless the contrary is stated, that of my American Catalogue:—

1. *TURDUS CHIGUANCO*, Lafr. & D'Orb.

"Migratory: arrives in June, departs in October. Resorts to the valleys near Lima. Feeds on spiders, small snails, &c. Irides reddish brown."—W. N.

2. *MIMUS LONGICAUDATUS*, Tsch. F. P. p. 190, pl. 15. f. 2.

"Haunts corn-fields and woody parts of the Rimac. Feeds on worms, &c., and Indian corn. Nest artlessly made of small sticks in Acacia trees; lays two eggs. Irides blackish brown."—W. N.

This is the first specimen I have met with of this Mocking-bird, which, as Tschudi observes, is nearly related to the Chilian *M. thenca*, but differs in its longer and more curved bill and longer tail. *Mimus leucospilos*, von Pelzeln (Sitz. Ak. Wien, xxxi. p. 323), seems to be the same as Tschudi's bird.

3. *TROGLODYTES FURVUS* (Gm.).

"Found on the tufts of reeds, along with *Cyanotis omnicolor*. Habits just like those of *Cyanotis*. I have a nest; it is somewhat like the nest of the Marsh-Wren of North America. Irides brownish black."—W. N.



M & N. Hartert del.

Fig 1 MYIOBIUS NATIONI
2 PULCHER



4. ANTHUS, sp.?

“Common in all the meadows near Lima: soars in the air almost perpendicularly for about 60 feet, and sings while ascending. Feeds on worms, &c. The female lays four eggs, of a dirty-white colour. Irides dark brown.”—W. N.

5. TANAGRA DARWINI, Bp.

“Possibly *T. darwini*, but cannot be *T. striata*, as we have males and females here in Lima. Tschudi never saw a female; his description only refers to the male. In the months of August and September one or two male birds can be found in every fruit-garden in Lima. The females are extremely scarce. This year I shot in one garden thirty birds, and only obtained two females. When the fruit-season is over they go away, I do not know where. They rarely build in Lima; only once I saw a nest; it was on the top of a willow in a garden, in the month of September. A mischievous fellow shot the female on the nest. Irides reddish.”—W. N.

Certainly *Tanagra darwini*, Bp. (*Tanagra frugilegus* of Tschudi's ‘Fauna Peruana’), and quite distinct from *Tanagra striata* (Gm.), although at one time I held a contrary opinion. See my note, P. Z. S. 1858, p. 453.

6. SALTATOR STRIATIPLECTUS, Lafr.

“More common than *T. darwini*. Frequents fruit-gardens and bushes on the sides of cultivated fields. I think this species does not migrate like the other. Irides light red.”—W. N.

7. CATAMENIA ANALOIDES (Lafr.).

“Migratory; I have one alive in a cage. I never saw this bird till last year. I ran after it day after day for three months. With all my trouble and expense I could only procure two birds. They generally arrive in December and go away in May. Feeds on the seeds of *Sida maculata*. I never saw a bird so graceful when it is in its bush feeding. Irides nearly black.”—W. N.

In my American catalogue I have placed the genus *Catamenia* near *Spermophila*. I am now, however, quite convinced that it is much more nearly allied to *Phrygilus*. My *C. homochroa* is in fact an intermediate form, perhaps more correctly referable to the latter group.

8. VOLATINIA JACARINA (Linn.).

“One of the commonest birds around Lima, exceedingly tame and gentle. Makes its nest in low bushes; and lays two eggs, with brownish patches on a dirty-white surface. I have among my ‘Birds of Peru’ a carefully made drawing of the male and female, which, strange to say, have never been described yet by any ornithologist. All the descriptions I have seen refer to the male only. When the female is sitting on the eggs, the male makes a number of jumps in the air from a branch near the nest. Irides nearly black.”—W. N.

9. *GEOSITTA PERUVIANA*, Lafr. Rev. Zool. 1847, p. 75.

“Frequents plains so dry and dusty that one would think nothing animate could be found in them. Feeds on atomic Coleopterous insects and spiders. I have lately found out its haunt. Irides brownish black.”—W. N.

The first example I have met with of this interesting species, described by Lafresnaye from examples procured by Delattre near Lima.

10. *GEOSITTA CRASSIROSTRIS*, sp. nov.

“Found on the hills around Lima and by the sea-side. It is a very shy bird, and I know very little about it yet.”—W. N.

I was inclined at first to refer this species to *Certhilauda tenuirostris*, D'Orb. (Voy. p. 359, pl. 43. f. 2), although it does not quite agree with D'Orbigny's description; but having entrusted the specimen to Mr. Salvin to compare with the typical specimens of that species in the Paris Museum, I am enabled, through his kindness, to say that it is quite different. I therefore propose to call it *Geositta crassirostris*. Its description is as follows:—

G. supra obscure nigricans, plumis pallido fusco marginatis; superciliis et capitis lateribus albicantibus; alis obscure nigris, remige externo unicolore, secundo et sequentibus plaga magna fulvo-rufa, gradatim crescente et in secundariis basin totam utriusque pogonii occupante, notatis: remigis septimi et sequentium et secundariorum apicibus fusco-rufis: subtus cinerascenti-alba, gutture puriore, lateribus et crisso fulvo tinctus: alarum tectricibus inferioribus læte rufis: cauda fulvo-rufa, fascia lata ante-apicali nigra; rectricibus duabus mediis dorso concoloribus: rostro et pedibus obscure fuscis.

Long. tota 6·5, alæ 3·6, caudæ 2·1, rostri a rictu lin. dir. 1·2, tarsi I poll. Angl.

Hab. in Peruviae occidentalis regione maritima.

Obs. Aff. *G. tenuirostri*, sed rostro brevior et crassior et alis brevioribus distinguenda.

Mr. Salvin remarks that “the bill of this species is *much* stronger and shorter than in *G. tenuirostris*, and that in the latter the bill is dark yellowish brown, clear yellow one-third of the base of the under mandible. Also the tarsi and feet of the present bird are much stouter, and the hind claw stronger and more curved. The whole bird is of a darker brown above than *G. tenuirostris*; the secondary quills and tail of *G. tenuirostris* have no subterminal dark band, or rather only have it faintly shown on the underside of the feather; the under plumage of *G. tenuirostris* is more tawny.”

These differences have since been confirmed by examination of two examples of *G. tenuirostris* in the British Museum.

11. *PHLEOCRYPTES MELANOPS* (Vieill.).

“Everywhere near Lima, not a wall, not a ditch, not a heap of rubbish, but one or two of these birds can be seen. A Tartar for

the spiders. Makes its nest in old walls, banks, &c. Irides dark brown."—W. N.

12. *MUSCISAXICOLA MENTALIS*, Lafr. et D'Orb.

"Perhaps migratory. I saw this species for the first time last March in a meadow, running on the ground very fast and moving its tail. It feeds on Coleopterous insects. Irides dark brown."—W. N.

13. *SERPAPHAGA CINEREA* (Strickl.).

"Frequents sides of rivers, stony places in streams, and old arches. Hunts on the wing and on the ground. Feeds on Coleopterous insects. Solitary. Irides reddish brown."—W. N.

14. *CYANOTIS AZARÆ*, Licht.

"Haunts tufts of reeds in an inaccessible swamp a few miles from Lima. In habits and manner of feeding just like the American Marsh-Wren. Feeds on small insects on the reeds. Irides nearly black."—W. N.

15. *ELAINEA PAGANA* (Licht.).

"Migratory, arrives in December, departs in June. Feeds on berries of *Cestrum auriculatum*. I never saw a vestige of an insect on dissecting it. Irides blackish brown."—W. N.

16. *PYROCEPHALUS RUBINEUS* (Bodd.).

"Found all the year near Lima. Has all the habits of a *Tyrannus*. Frequents fields and open plains; feeding entirely on Coleopterous insects. Irides dark brown."—W. N.

I have hitherto referred west-coast specimens to *P. nanus*, Gould, described (Zool. Voy. Beagle, iii. p. 45) from the Galapagos. But I find on comparison they are not fairly distinguishable from the eastern bird. On the other hand, the northern *P. mexicanus* is decidedly of larger dimensions, as far as I can judge from my examples, and may for the present remain apart.

17. *PYROCEPHALUS OBSCURUS*, Gould.

"Has all the habits of the last species. I have shot some with a few red feathers on the breast mixed with the others. Irides dark brown."—W. N.

In my American Catalogue (p. 228) I have omitted to insert an important synonym of this species, viz. *Myiobius atropurpureus*, Tsch. F. P. Aves, pp. 24, 156.

18. *MYIOBIUS NATIONI*, sp. nov. (Pl. XI. fig. 1.)

"Resorts to bushes of the thickest foliage and in the most unfrequented places; hunts on the wing from branch to branch like a *Dendrocæca*. Makes its nest at the extremity of a slender branch, in the fork. Irides dark brown."—W. N.

This little Tyrant appears to belong to an undescribed species of

Myiobius, to which I propose to append its discoverer's name as a specific appellation. It is most nearly allied to *M. cinnamomeus* and *M. vieillotides*, and must follow them in the arrangement which I have given of this group in these 'Proceedings' (1860, p. 466). It may be characterized as follows:—

*M. Murino-brunneus, uropygio fulvicante : pilei plumis intus auran-
tantiacis : alis caudaque obscure nigris, illarum fasciis duabus,
tetricum apices occupantibus, cum toto corpore subtus clare
fulvis ; rostro superiore nigro, inferiore pallescente : pedibus
nigris.*

Long. tota 4·5, alæ 2·3, caudæ 2.

Obs. Aff. *M. vieillotidi* et ejusdem formæ, sed statura minore, et corpore supra fusco subtus fulvo, nec rufo, distinguendus.

As a companion to the present bird, I figure (Pl. XI. f. 2) my *Myiobius pulcher*, of Ecuador, which was described in P. Z. S. 1860, p. 464.

19. COCCYZUS MELANOCORYPHUS, Vieill.

"Migratory, somewhat rare. I have procured eight or nine examples in thirteen years. Arrives in March, and stops with us a few months. Feeds on grasshoppers, caterpillars, &c. Resorts to low bushes and such as have thick foliage. Irides dark blue."—W. N.

20. CONURUS AURIFRONS (Less.).

"Abundant in the fields about Lima; always found in flocks of ten or twelve. Feeds on Indian corn. When they alight on a tree or bush they always select one of a light-green foliage. Makes its nest in the rocks, where they roost by night."—W. N.

21. CHAMÆPELIA ANAIS (Less.).

Metriopelia anais, Bp. Consp. ii. p. 76.

"Feeds on the plains, roofs of houses, and farmyards. Builds in holes in walls, &c., about Lima. When alive the naked space around the eye is of a beautiful yellow."—W. N.

22. CHAMÆPELIA AMAZILIA, Bp. Consp. ii. p. 78.

"Makes its nest on the ground among the alfalfa (Lucerne), and lays two eggs of a milky white. Feeds in meadows. Irides reddish."—W. N.

23. CHAMÆPELIA CRUZIANA (D'Orb.).

Columbula cruziana, Bp. Consp. ii. p. 80.

"Feeds on the ground, in places where there is little herbage. Makes its nest in a bush, a few feet from the ground. The female lays two eggs, of a milky white."—W. N.